DOCUMENT RESUME

ED 132 23? UD 016 626

TITLE	WIS. World of Inquiry School.
INSTITUTION	Rochester City School District, N.Y.
SPONS AGENCY	National Science Foundation, Washington, D.C.
PUB DATE	76
NOTE	58p.
EDRS PRICE	MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS	*Alternative Schools; Continuous Progress Plan; Educational Finance; *Elementary Schools; Financial Support; Flexible Progression; *Individualized Instruction; *Nongraded System; Parent Participation; Program Evaluation; *School Organization; School Personnel; School Support; Teacher Education; Ungraded Schools
IDENTIFIERS	*New York (Rochester); World of Inquiry School

ABSTRACT

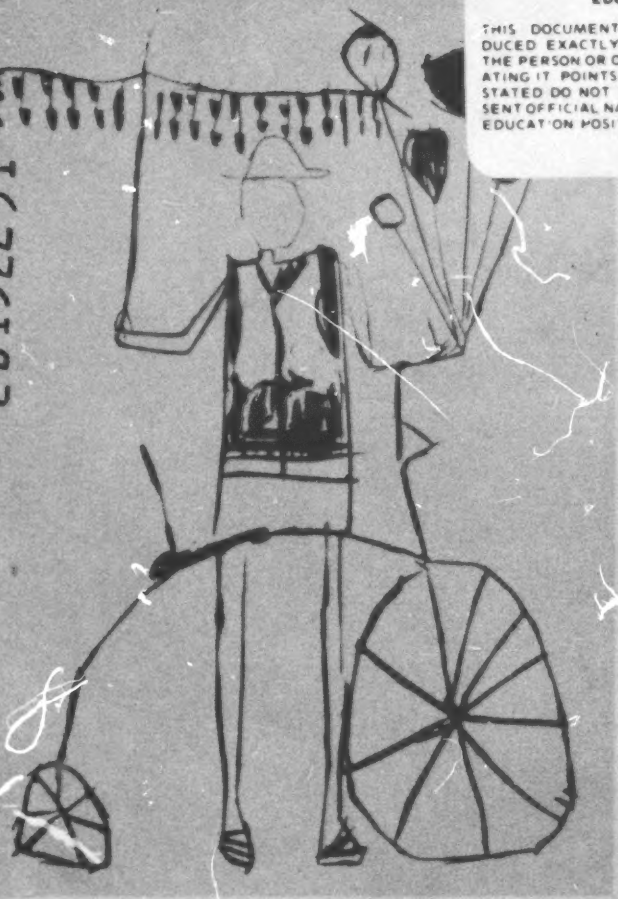
The World of Inquiry School opened in September 1967 with an enrollment of 120 children accepted from the entire city of Rochester and Monroe County. By September 1973, enrollment had increased to 275. The school reflects major departures in educational attitudes, techniques and programs, with children being brought together from different educational, cultural, racial and ethnic backgrounds. One of the basic tenets followed at WIS is that chronological age is not the basic determiner of readiness for learning. Another implemented concept is that learning takes place best through active involvement, while greater interest in learning is stimulated through Inquiry and Discovery. Success is measured at WIS in terms of the children's excitement and enthusiasm for learning and their progress toward self-direction and responsibility for their own learning. The make-up of the school is 50 percent Caucasian and 50 percent minority. The following educational practices characterize WIS: (1) Learning is individualized for each child. (2) Each child is given the opportunity to progress at rates, and through routes, best suited to his needs and abilities. (3) Each child is provided with opportunities and environments conducive to inquiry and discovery. (4) Each child has continuous contact with a number of adults in a variety of environments. Urban parents are responding well to the WIS approach as evidenced by large waiting lists. (Author/JM)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED132231



BEST COPY AVAILABLE

BEST COPY AVAILABLE

UD016626

WIS

World of Inquiry School

In appreciation . . .

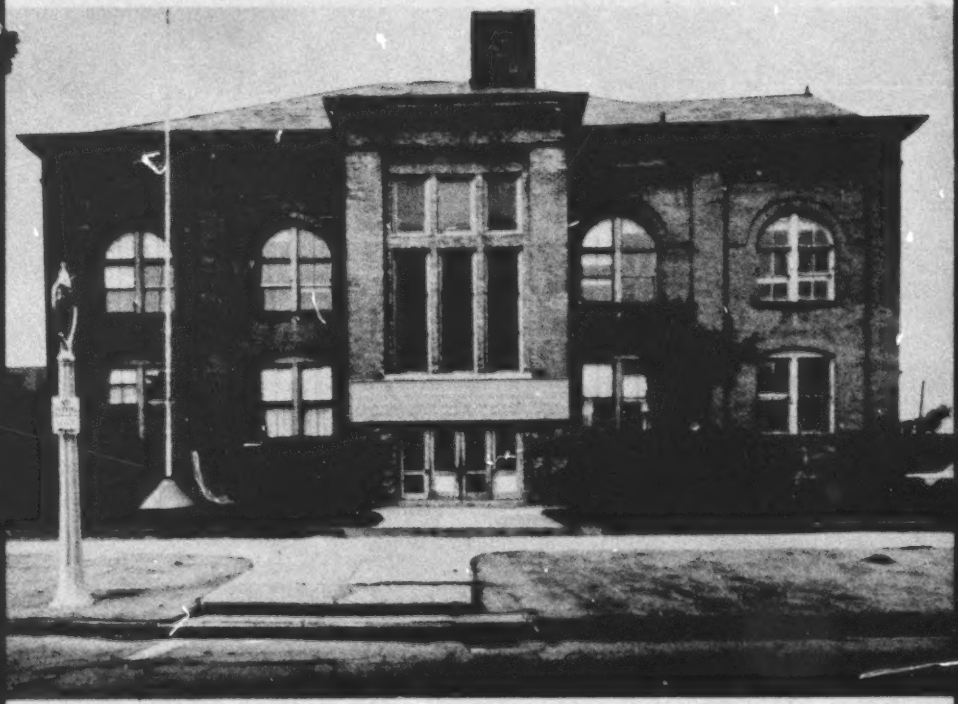
It is with grateful appreciation that we acknowledge the following persons whose vision and foresight enabled a dream to become a reality: HERMAN GOLDBERG, Superintendent of Schools for Rochester - now Associate Commissioner of Equal Opportunity Programs, Washington, D.C.; WILLIAM FULLAGER, Dean, College of Education, University of Rochester - now Professor Emeritus, University of Rochester; DEAN CORRIGAN, Professor of Education, University of Rochester - now Dean of Education, University of Vermont; and ELLIOTT SHAPIRO, Director, Center for Cooperative Action in Urban Education - now retired Superintendent of Schools, District No. 3, New York City.

Cover Design:	Michael Marrero, Class of 1973. Selected for the UNICEF Art Collection.
Narrative:	Faculty and Staff of the World of Inquiry School
Editing:	Margaret McCrory and William Pugh
Project Assistant:	Eleanor Peck
Photography:	Campbell Photos
Printing:	ABC Letter Service

City School District, 13 So. Fitzhugh St., Rochester, N. Y. 14614

TABLE OF CONTENTS

		Page
Introduction		1
Chapter I	Historical Perspective	3
Chapter II	World of Inquiry School	5
	Organization	14
	Staffing	21
	Teacher Training	22
	Parents	23
	Funding	24
Chapter III	National Science Foundation	25
Chapter IV	Summary	29
Appendix A	Evaluation Data	36
Appendix B	School Staff	48
Appendix C	Trustees of Project Unique	53



INTRODUCTION

In one corner of the inner city of Rochester, New York, stands a very old building. Since the 1870's, it has functioned as an elementary school. Grandparents of today's children might well have walked and sat primly within its walls. For almost a century this school was typical of the elementary schools in Rochester. It was known by a number and followed patterns established years before.

In 1967, almost at the moment that bulldozers were poised to tear it down, a group of educators was meeting at the University of Rochester. They envisioned an elementary school which was hopefully less structured, less formal and more effective for Rochester's children.

With imagination and vision, this group called their undertaking the **Center for Cooperative Action in Urban Education** and the school they planned **The World of Inquiry School.** Operating within the city school system, the school was designed to provide a meaningful alternative for urban children and serve as a model for innovations in elementary education.

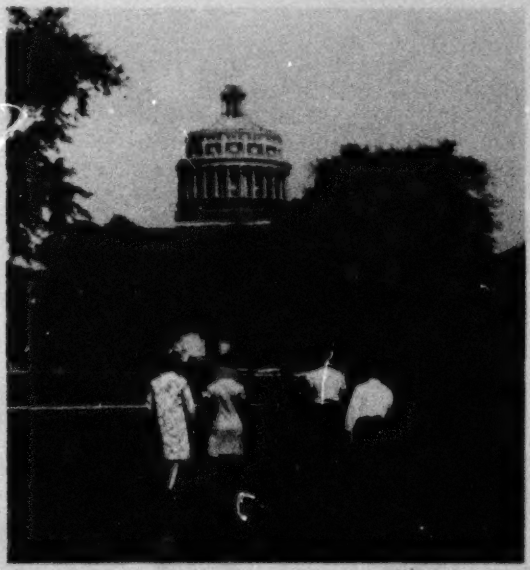
Thus, the antiquated building was given new life and a new name . . . The World of Inquiry. Today you can see children walking, running, or even riding down the same wooden corridors.

CHAPTER I
HISTORICAL PERSPECTIVE

During the decade between 1954 and 1964, drastic changes were evident in the population growth of urban Rochester. The Black population, for example, increased from 7,500 to 35,000. Blacks, Puerto Ricans, and poor whites all came in search of a better life and were met with frustration and defeat. Job opportunities were limited and assimilation into community life was virtually impossible. Inner-city children attended outmoded schools located in close proximity to new skyscrapers housing business and industry. Perhaps this was indicative of the priorities of the city at this time.

In 1964, riots in the streets expressed the deep frustration of those people who had remained silent for too long. Tranquility was disrupted and the city was forced to take notice of what was happening and perhaps ask . . . why?

Order was restored by local and state police and the National Guard but the roots of the problem had to be recognized. In response to this outburst, Superintendent of Schools Herman Goldberg called a conference seeking assistance from public and private schools, colleges and universities. Dr. William Fullager, Dean of Education at the University of Rochester, assigned Dr. Dean Corrigan to work on a full-time basis with the Superintendent to design programs relevant to the needs of the city schools. With the assistance of Dr. Norman Kurland, from the newly formed Center for Innovation in the State Education Department, a creative planning task force evolved called the Center for Cooperative Action in Urban Education (CCAUE).



CCAUE brought together educators, business and community leaders, and civil rights groups as it began formulating plans to improve and change the educational picture in Rochester. The involvement of the total community resulted in a variety of new ideas. To better meet the needs of the urban child, public education had to interpret, expand and improve its educational programs within the inner city. The federal government, recognizing this need for change, set aside a sum of money through Title III of the Elementary and Secondary Education Act for development of innovative education techniques.

This availability of funds resulted in a planning grant for Rochester, a summer workshop, and the creation of a planning staff in July 1966. Dr. Elliot Shapiro was appointed Director of this staff and discussions ensued with leaders from civic, religious, industrial, school and parent-teacher groups. In January 1967, CCAUE submitted a formal proposal for twelve programs, nine of which were approved by the Title III office in May of that year. These programs were:

1. World of Inquiry School
2. Urban-Suburban Transfer Program
3. RISE (Right of an Individual to Secure an Education)
4. Urban Education Major Program
5. Community Teacher Program
6. SPAN (School Parent Advisor to the Neighborhood)
7. Teacher Internship Program
8. Community Resources Council
9. Sibley's Satellite School

CCAUE was free to explore new approaches to educational problems, establish priorities and build up the lines of communication between educators and inner-city residents. Additional responsibilities of this center were inservice training, implementation of new programs, dissemination of information and determination of possibilities for future funding.

Continued participation and involvement of the community were assured through two components, SPAN (School Parent Advisor to the Neighborhood) and the Community Resources Council. Resource people from the community were given the opportunity to actively participate in this educational process. Weekly meetings were held defining specific objectives.

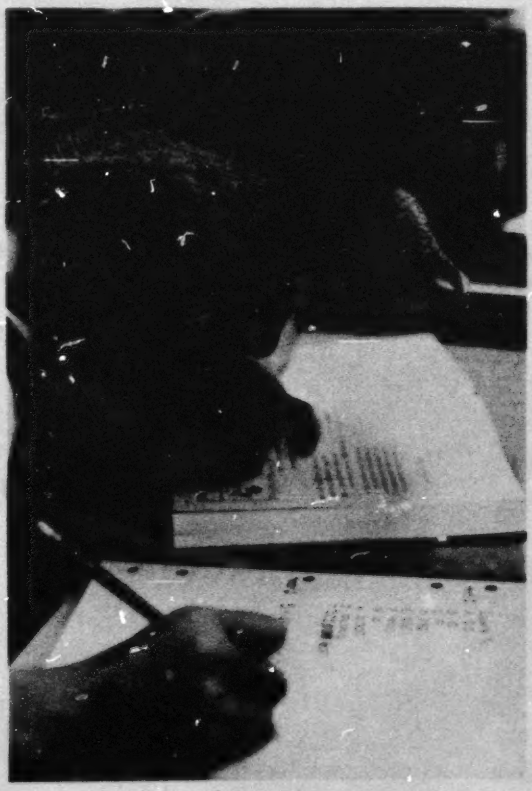
In September 1967, after a one-year assignment, Dr. Shapiro left the Center to accept the position of Superintendent of Schools in New York City's District No. 3, Leadership for CCAUE was transferred to Mr. William Young who headed the programs through June 1970. Mr. William C. Pugh, a staff member of the CCAUE, was appointed Program Administrator for the newly created World of Inquiry School in September 1967.

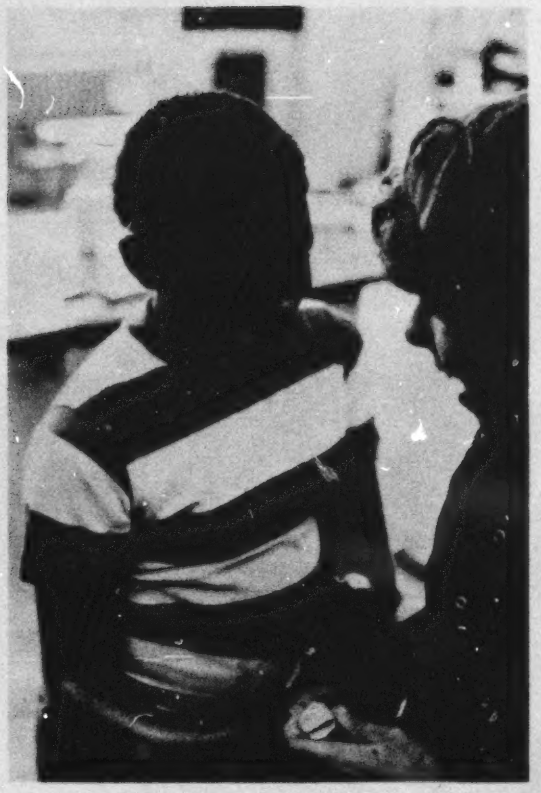
In the fall of 1969 with the encouragement of Superintendent of Schools Goldberg, the Rochester Board of Education, the parents of the World of Inquiry School, and civic leaders (such as William B. Lee, President of one of Rochester's largest stores), Project UNIQUE, Inc. was chartered by the New York State Board of Regents as a private, non-profit, educational corporation governed by a Board of Trustees. It continues still to serve as an agency to the Rochester Board of Education for seeking funds in support of a variety of worthwhile programs in the Rochester schools.

CHAPTER II
WORLD OF INQUIRY SCHOOL

The World of Inquiry School opened in September 1967 with an enrollment of 120 children accepted from the entire city of Rochester and Monroe County. In September 1968, enrollment was increased to 150, in 1969 to 200 and in 1973 to its present number of 275.

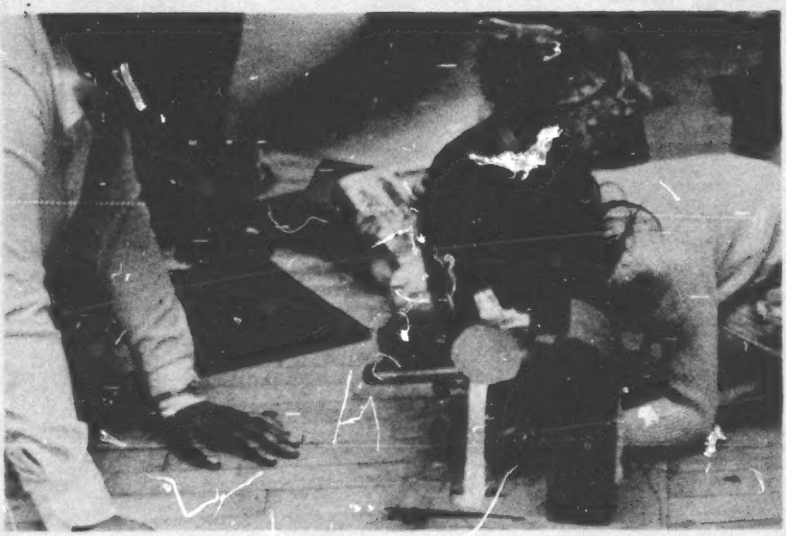
The school reflects major departures in educational attitudes, techniques and programs, with children being brought together from different educational, cultural, racial, and ethnic backgrounds. One of the basic tenets followed at WIS is that chronological age is NOT the basic determiner of readiness for learning. Another implemented concept is that learning takes place best through active involvement, while greater interest in learning is stimulated when opportunity is provided for INQUIRY and DISCOVERY. The measure of success of these educational concepts lies in the degree to which children are excited and enthused about learning and are continuous in self-direction and responsibility to their own learning.



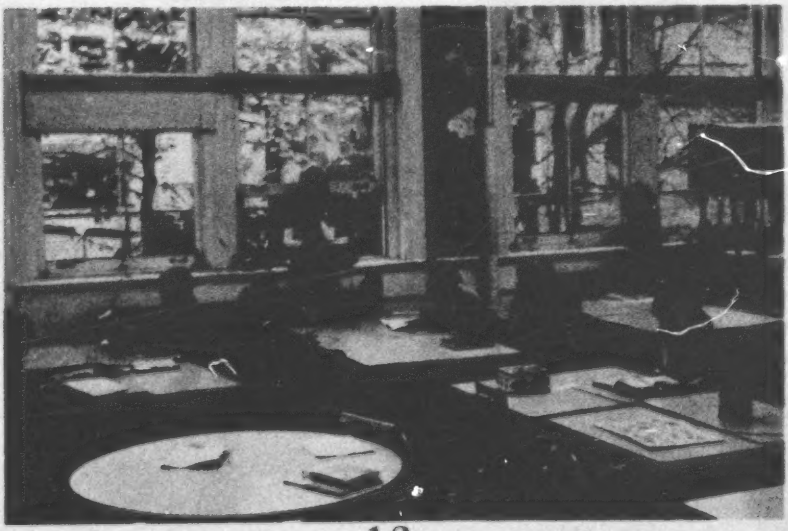


WIS is integrated by design. It is not a neighborhood school. Rather, it represents a mini-model of the city of Rochester. The make-up of the school is 50% Caucasian and 50% minority. Geographically, 25% of the children come from the inner city, 50% from the middle city, and 25% from the outer city. Acceptance at WIS is based upon application made directly to the school and at the present time, there are approximately 400 children on the waiting list. The school is as much an experiment in urban living as it is in urban learning with children and their families representing a balanced cross-section of the community in terms of age, sex, race and geographic location.

The school day begins in the family room. Each family group is a mini-model of the total school group. There is one pre-primary family group of 35 children, three primary family groups of 40 children each, and three intermediate family groups of 40 each. In the family room, each child learns basic reading, language arts, and mathematics skills. The other areas of learning are Interest Centers, each with a teacher-resource-specialist. Children work alone, in groups, and with a teacher, but much of the experience is one of individual choice. Interest centers include art, library, music, physical education, social studies, industrial arts, and visual awareness. Children plan their own program selecting from among interest centers as well as following through on their reading and mathematics commitments daily.



There are no rows of regimented desks at WIS. Teachers and children are as likely to be sitting on the floor as at a table. Children move freely from area to area throughout the day. The atmosphere is alive with voices and constant movement. All doors are open to children, staff, parents, community and other visitors.

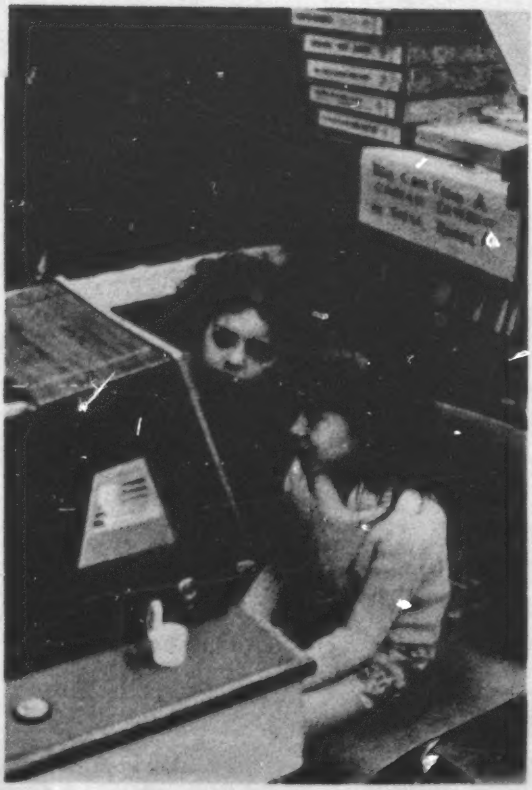


Traditional report cards are not used. Rather, teachers keep their own detailed record of each child's progress and evaluate those records with parents in a personal conference held once during the year. At the close of the school year, each parent receives a comprehensive written report which includes achievement test scores from the fall and spring; written evaluation of reading, language arts, and mathematics skills; and written evaluations from each interest center. These evaluations include knowledges and skills acquired, strengths and weaknesses, materials used and guides for continued development.

Children are viewed as unique individuals and so, too, are teachers who have been given freedom to experiment and develop their own unique styles and methods of teaching. Teachers select and order their own instructional materials from a variety of resources. In mathematics, the IPI Systems approach is utilized for all children from level two through eight. Teachers are assisted by staff resource specialists in Reading and Growth and Development in a continuous process of diagnosing the needs of each child and in evaluating his progress.

The WIS philosophy embodies the following beliefs about learning:

1. Each child is a unique human being, with characteristics and potentials that may exist to some degree in others but never in exactly the same way.
2. Children of a given age differ widely in physical, social, emotional and intellectual development. Therefore, chronological age is not the basic determinant of readiness for learning.
3. Learning takes place best through active involvement of the learner, and interest in learning is best stimulated when the processes are those of Inquiry and Discovery.
4. Children have differing styles of learning. Some require more cognitive experiences in order to acquire concepts and skills while others respond better to the more affective kinds of experiences.
5. Children brought together from differing educational, cultural, racial and ethnic backgrounds can be prepared to deal more effectively with human problem-solving experiences than those who are not in an integrated setting.



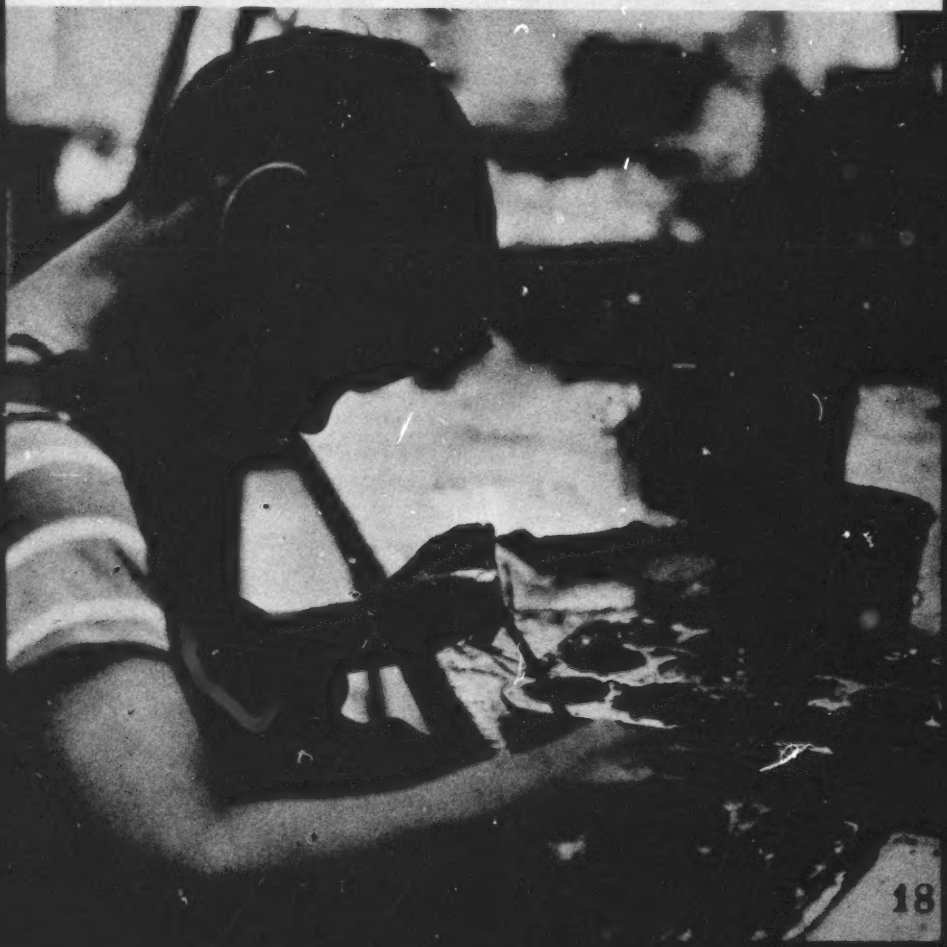
These beliefs are implemented through the following educational practices:

1. Learning is individualized for each child.
2. Each child is given the opportunity to progress at rates, and through routes, best suited to his needs and abilities.
3. Each child is provided with opportunities and environments conducive to inquiry and discovery.
4. Each child has continuous contact with a number of adults in a variety of environments.

Finally, the following objectives guide the **program development** at WIS:

1. **To maximize the child's growth potentials by** (a) providing opportunities for spontaneous learning which are both more interesting and lasting; (b) providing opportunities for human interaction that will improve racial attitudes on the part of all children; (c) providing opportunities for children to engage in activities that should improve occasions for human interaction, strengthen social feelings and heighten self-image; and (d) providing opportunities for children to encounter situations that should develop and increase their decision-making skills.
2. **To promote effective human interactions by** (a) providing continued progress for each student through means of a variety of resources and materials, and (b) providing an emotional climate in the family group which is conducive to learning.
3. **To implement teacher growth and active participation in all parts of the program by** (a) utilizing the human and cultural resources of the community as they relate to individual and group needs of the school community (b) utilizing non-traditional curricula materials and methods of teaching and (c) responding to children's progress or lack of it.
4. **To make available, through demonstration, aspects of the World of Inquiry's innovative program by** (a) demonstrating the educational and social value of an integrated, multi-aged, non-grad , multi-achievement level student population; (b) demonstrating the openness and positive attitudes on the part of World of Inquiry children that result from this educational setting and approach.

Continuing into its tenth year, 1976-77, the school maintains its unique model of a proven educational alternative and its demonstration and visitation program. It also continues the unique features of an open activity-centered school; the socio-economic and racial mix; the Interest Center approach to learning; the emphasis on continuous progress, decision-making and student planning; and the Teacher Training Center which provides a joint working relationship with the State University of New York College at Brockport.

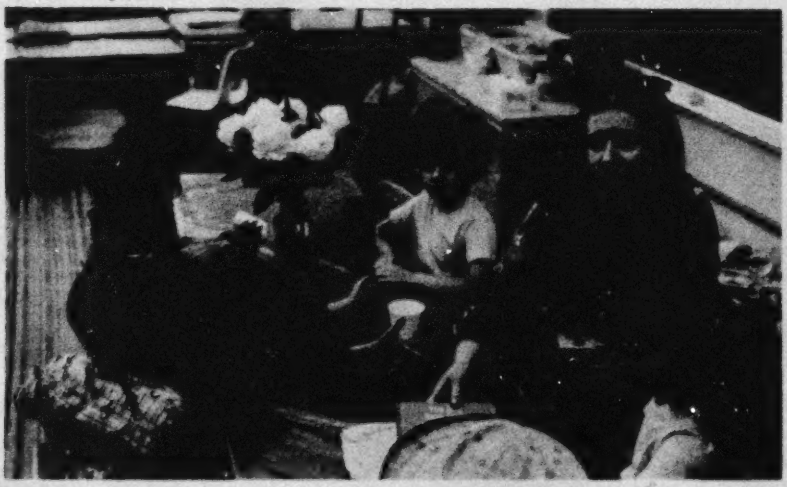


SCHOOL ORGANIZATION

In planning the structure of WIS, two distinct settings were designed. **Family groups** are the setting for basic instruction which includes reading, language arts and mathematics. **Interest centers**, each with a teacher - resource specialist, provide individualized instruction in these special areas.

In September 1967 when the school opened, three primary units with fifteen children each were organized with the following age ranges: three through four years, five through eight years, and seven through nine years. Three intermediate class units with fifteen children each were organized: one unit of children age eight through ten years and two units of children age nine through eleven years. One class unit was established encompassing children age five through twelve with thirty children and two teachers.

Through the nine years of development, attention has been focused upon grouping of children. This has resulted in approximately four different group organizations prior to the present group pattern. At the same time, family group size has continued to increase to the present average of forty children. There now are seven family groups: age five, age six, ages seven and eight, age nine and ages ten and eleven years. Experience has demonstrated that this pattern of groups is the most sound for educational purposes of learning and child growth and development.



For the first five years of the school's operation, an Early Childhood Unit accommodated twenty children ages three and four in a family room setting. The educational experience offered to these youngsters focused on language, perception, and verbalization. It differed from that of the traditional nursery school in three essential ways: 1) the children were not divided by age, 2) they attended for a full day, and 3) they could participate in interest center activities when socially ready. Beginning with the 1972-73 school year, the primary program was reorganized and the Early Childhood Unit was dropped.

Interest Centers

Each center reflects the basic educational values of the school itself: freedom, industry, and respect through directed inquiry. They have varied over the years but have always included art, industrial arts, social studies, library, music, physical education and for a brief period, science, health, human relations and visual awareness. Under a federal grant, two centers – Career Education and Spanish Culture – were established for one year (1973-74). These centers encourage all children to focus on topics and activities of special interest and to pursue them in-depth.

Art Center

The art center stimulates children to be creative by providing a wide variety of media and promoting a sense of freedom. Opportunity for independent thinking is the vital ingredient with minimal emphasis placed on the end result. By becoming aware of the many art forms, students develop a sense of appreciation for the arts. All children are encouraged to study this medium of expression and are given in-depth instruction.

Career Interest Center

In the Career Interest Center, children were introduced to the many possibilities open to them in the "World of Work." They developed their individual interests through a variety of first-hand experiences, reinforced their language arts skills through stories, and learned through flash cards the vocabulary words related to specific occupations. Other activities included the use of audio-visual materials to explain different careers and field trips into the community to observe many kinds of work.

The varied program in the Career Center was designed to enhance the self-image of minority students, increase their options in selecting a future goal, and thereby raise their level of academic achievement. Integral to this program was the underlying values clarification approach.

21

Industrial Arts Center

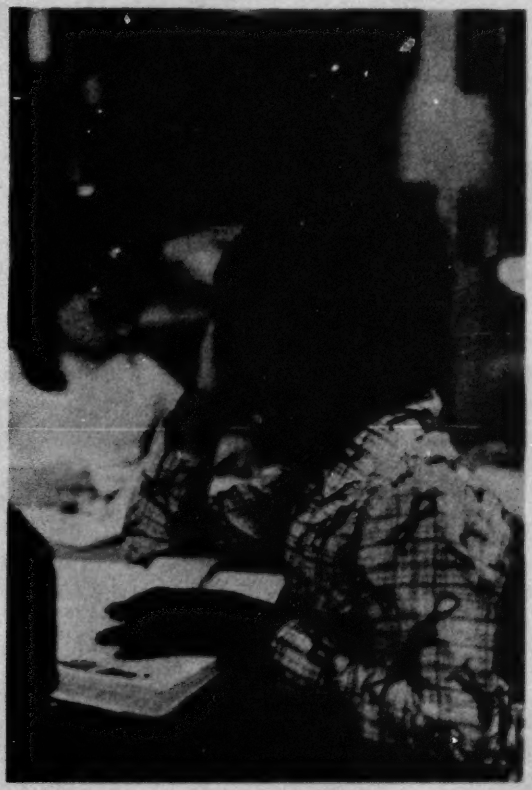
Children are introduced to a variety of manipulative activities in this center including work with wood, ceramics, electricity, graphic arts, metals and plastics.

Students utilize many new products, processes, tools and materials as they produce a finished product. The center strives to discover each student's natural abilities and in the process help to develop character traits. Each project that is undertaken must be carefully planned by the student with guidance from the teacher. Purposeful reading, observation and research are encouraged in conjunction with each student project.

Library Center

The library is always open to children. They may read, do research work or take advantage of the many resources available, such as filmstrips, film cartridges, records, and tapes. Other activities offered as part of the library program include map and globe study, movies, T.V., a paperback book store, story hours, puzzles and games, and magazines for reading or cutting.

As children progress, they are taught library skills including how to use the card catalog and how to find reference materials. Each child has his own numbered card in the library and is responsible for checking out his own books. The library center stresses responsibility and purposeful activity as children enjoy its facilities.



Music Center

Children develop musical skills through singing, rhythm and movement activities, listening, and playing instruments. Self-teaching aids are available for use with the recorder, flutophone, melodica, auto harp, and tone bells. Children are encouraged to be creative with sound by constructing instruments. For those children desiring private instruction, piano and violin study is available for a fee.

Physical Education Center

For primary children, the foundation of the physical education program includes motor activities to teach coordination, balance, agility, and body awareness. The program centers around rhythmic activities, singing games, stunts and tumbling, mimetics, and creative movements.

For intermediate children, the program incorporates many of the activities listed for primary children but stresses team play such as basketball, softball, wrestling, and folk dancing. Individual activities are also included such as gymnastics and track and field events. Swimming is offered as a part of the program. The Arnett YMCA is conveniently located so that children, under adult supervision, may walk the distance.

Social Studies Center

Students may attend this interest area on an individual basis or with their family groups. The social studies program incorporates sociology, economics, geography, psychology, anthropology, government, and history.

The library and conference rooms are often utilized as part of the social studies program. Field trips into the community also play an integral part in the learning process helping children to relate school experiences to life in the community.

Emphasis is placed on observation, organization, recognition of relationships, generalization, and the application of these educational tools. In addition, students are introduced to map skills, research skills, and a basic knowledge of concepts.

The Social Studies Interest Center primarily strives to prepare students to meet the challenges of our increasingly complex urban environment and to stress the fact that learning experiences are not restricted to the school setting.

Spanish Cultural Center

This center operated as a cultural island for the years 1973-75. Using music, artwork, flags, maps, and films, students experienced a totally Spanish environment. Language instruction classes were held daily for the primary and intermediate children. The history and geography of the Spanish cultures were also stressed in the center's program. Social customs were introduced through plays, skits, and puppet shows. Visits to museums, art galleries, arts and crafts shops, and Spanish markets added to the children's understanding of Spanish-speaking peoples and their cultural heritage and contributions.

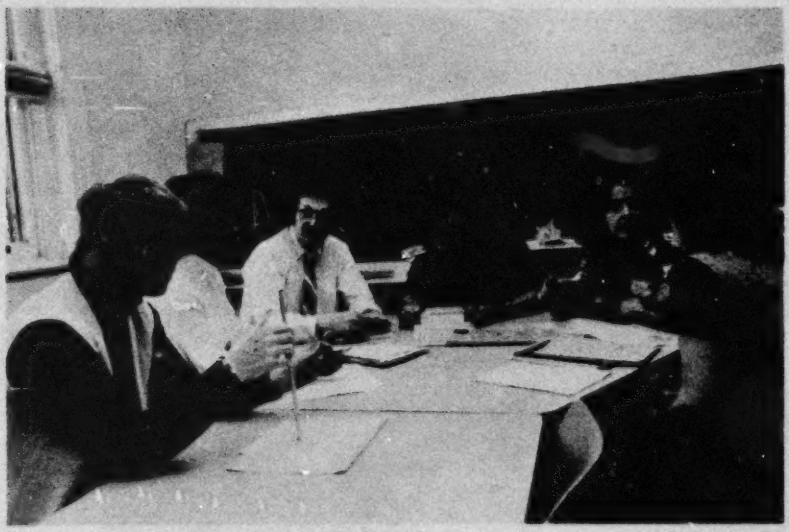
STAFFING

In 1967, when the school first opened, the staff for WIS was screened and selected by C.C.A.U.E. The staff of C.C.A.U.E. also helped to plan the instructional program, assess the building needs, and carry out pupil selection for the 1967-68 school year. At this time, the staff consisted of 13 teachers, 8 aides, the Program Administrator, 1 Curriculum Specialist and 1 Counselor.

A cycle of workshops was one of the major ways in which the staff was oriented to the school's philosophy and organization. Concepts such as individualization, subject area skills, and guidance techniques were discussed and developed.

Throughout the nine years there have been continuous differentiated staffing patterns. Always, however, these patterns have maintained the basic organization of family grouping and interest centers. A total professional staff of fifteen now serves a student population of 275 children.*

*A complete listing of school staff appears in the Appendix.



TEACHER TRAINING

The inclusion of teacher training at the World of Inquiry School began in 1967. Initially, student teachers came to the school for the traditional two-month practicum assignment. Starting in 1971, a joint working relationship was established between WIS and SUC at Brockport - BRUTEP (Brockport-Rochester Urban Teacher Education Program). Although students from other nearby colleges and universities continued to be involved for short-term assignments, BRUTEP was the basic teacher training program at WIS until 1974 when the training model became known as the ITPP program (Individualized Teacher Preparation Program). Via this program, students in education from the College at Brockport have a year long competency-based professional experience. A professor is assigned to the school on an "in-residence" basis to guide the overall training aspects of the program and to coordinate and participate in the related course content. The Family Group Teacher assumes the role of Master Teacher in this differentiated staffing pattern and provides the on-site leadership, training and support for this learning experience. This means of direct impact on prospective teachers has relevance to both the dissemination process and to the implications for broader teacher education.

PARENTS

To maintain open lines of communication between parents and the school during the early months of the first school year, parent orientation conferences were held. The main objective was to keep parents informed about the educational philosophy of the school and their children's schedules and activities. Sessions were arranged for mornings, afternoons and evenings so that parents could attend more conveniently.

During the first three years, parents volunteered to serve as guides for the 1200 visitors who toured the building each year. Parents involved in this activity became more comfortable in the school and were able to reinforce its teachings in the home with their own children. The volunteer Tour-Guide Corps ended in 1972 as the number of visitors decreased and tours for guests were assigned to a teacher aide.

From the beginning, parents of children at WIS indicated a desire for input into the school's policies and practices. For this purpose, a steering committee was formed and subdivided into three components: social, political and educational. The political committee was particularly active as it dealt with integration problems throughout the city. The steering committee met monthly to provide a more efficient framework for promoting the continued operation of the school. Several parents also served on the Board of Trustees of Project UNIQUE, Inc. Regular business meetings of the Trustees held at the school reviewed progress, established priorities, and took appropriate action regarding financial needs.

By continuous involvement through the years, parents have played an active role in the education of their youngsters and WIS continues to encourage this kind of participation.

FUNDING

In June 1970, when federal funding ended, several of the original components in the Title III grant were eliminated. The Rockefeller Foundation approved a grant of $100,000 per year to the World of Inquiry School for the years 1970-71 and 1971-72 that required a match at the local level. Through the efforts of a fund-raising committee established by the Board of Trustees of Project UNIQUE, Inc., these matching funds were contributed by local business, industry, and private donors.

A second boost came from the National Science Foundation in 1971 when it awarded a three-year grant to further develop two Interest Centers (Science and Social Studies), establish a Teacher Learning Resource Center, and conduct a longitudinal research study. The third and last substantial grant was received in 1973 through the Emergency School Assistance Act for special programs at WIS. This grant provided monies for a Spanish and Afro-American Cultural Center and a Career Education Center.

The school had been operating on a year-to-year basis without any certainty of continued funding by the City School District. Part of the reluctance to guarantee ongoing support was due to the infusion of "outside" funds and the general impression that the school was "getting too much money." The situation reached a crisis stage in the spring of 1972 and again in the spring of 1973 when the Board of Education declared its intention to eliminate the three alternative schools in Rochester. This decision would have closed the World of Inquiry School (grades K-6), Interim Junior High School (grades 7-8), and School Without Walls (grades 9-12).

An intensive campaign involving WIS parents, staff, and Project UNIQUE, in cooperation with staff, parents, and students from the two other alternative schools, emphasized the need for saving these programs. School Without Walls students addressed the Board of Education, distributed bumper stickers and posters while the Board of Trustees placed full-page ads in the local newspapers. The resulting public support was a major factor in the eventual decision to continue all three programs. Since that time, allocations to WIS have been equal to those for other District elementary schools.

CHAPTER III
NATIONAL SCIENCE FOUNDATION

In 1971, the World of Inquiry School requested and received a grant from the National Science Foundation for the creation and exploration of a Teacher Resource Center within the school. During this first year ('1971-72), the Teacher Center had as its major goal an intensive effort to change the teaching styles of Family Group teachers in the areas of mathematics and science. A secondary goal was that of helping these teachers to become more comfortable in teaching via the use of expression media.

During this exploratory year, direction for the Teacher Center was provided by Mr. Donald Cohen of the Bank Street College in New York City, who served as Consulting Director on a regularly scheduled basis each month. Strategies for implementing the Center were two-fold:

- Mr. Cohen and consultants spent time in the family rooms working with children, introducing and demonstrating new approaches, methods and materials in the areas of mathematics and science.
- Teachers carried out visitations and demonstrations for the City School District under a plan whereby substitute teacher time was provided for District teachers in order for them to spend blocks of time at WIS.

In 1972, WIS again received National Science Foundation funds to continue the Teacher Resource Center into the demonstration phase. During this second year (1972-73), the emphasis shifted from using entirely consultant services to utilizing a Teacher Specialist on a full time basis within the Center itself. Due to the fund-granting process which was not finalized until early November, the Center did not become fully functional until January 1973. Guiding the operation of the Center in the second year were the following goals:

- to create a central area from which materials and professional resources could move out into the Family Rooms to demonstrate methods and media.
- to facilitate increased staff leadership to the "community of teachers" enabling them to observe, share, and develop new information about teacher-made materials, commercial materials and equipment, record keeping and diagnostic techniques, and mini centers of interest.
- to add a unique dimension to the continuing development and organization of the school and its program.

The role of the Teacher Specialist in this Center was to serve as the facilitator of leadership and to provide organized, on-going direction to this Center and to the Interest Centers for Science and Social Studies. This was accomplished in the following ways:

- gathering input information from the Family Groups.
- releasing staff to conduct workshops in the Center.
- coordinating workshops for the District teachers in the exploration and creation of their own teaching materials.
- coordinating and cataloging existing city-wide teacher-made materials for more extensive and effective utilization.
- establishing operative areas within the Center in math, science, language arts and social studies.

A total of twenty-three (23) city schools and 425 teachers participated in workshops in the Center, constructing and developing materials and ideas for use in their own classrooms. Included in this number were Teacher Aides, Student Interns, Principals, Assistant Principals of Instruction, and professional staff from the City School District's Division of Instruction. The Center maintained its operation throughout the regular school day as well as evenings and Saturdays. Outcomes were as follows:

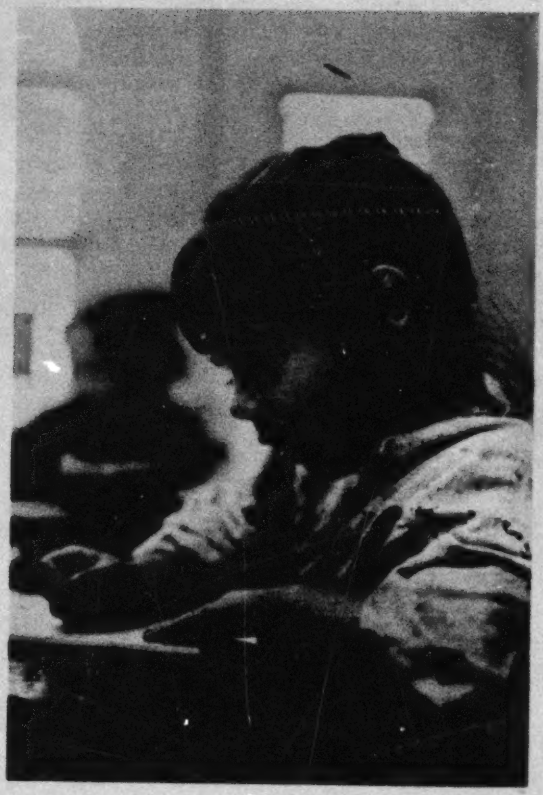
- a concentrating and pooling of efforts and resources in a central facility which was then able to reach out to the entire school district.
- providing a Teacher Specialist to demonstrate multimodels, materials and methods.
- providing direct and significant help to teachers in the District in their move toward individualizing instruction.
- adding both a viable and visible dimension to the developmental process of "Open Education."
- providing leadership and direction to the Interest Centers for Science and Social Studies in their pursuit of curriculum designs which reflect the World of Inquiry Model.

The evolvement of the Teacher Resource Center continued a third year in which the base of operation was expanded toward more in-depth curriculum experiences designed around the City School District's goals for upgrading instruction. To implement this, a two-pronged approach was proposed in the areas of math, science and social studies:

1. Continuation of the Teacher Resource Center, on-site, with teachers coming in to the Center for workshops, demonstrations and preparation of specific materials for use in their curriculum implementation. A uniquely different feature of this Center was the amount of time which teachers would spend in it. In the third year teachers cycled in for a continuous learning sequence of experiences which was held on a weekly basis over a period of six to eight weeks. The District was willing to grant in-service education credit to participants in such an experience and the Teacher Specialist effectively handled as many as three on-going groups at any one period of time. In addition, the Teacher Specialist continued the program during the regular school hours.
2. Creation of Science and Social Studies Resource Centers, on-site, and adjacent to the Teacher Resource Center. The primary goal was that of stimulating teacher development and a re-thinking of the teaching of science and social studies as a process rather than just a content/textbook approach. Children benefited from their direct science and social studies experiences in these centers; however, a major focus was on teachers and their orientation to new processes and approaches which they then implemented in their own classroom settings. Teachers, under the guidance of the Science and Social Studies Specialists were engaged in utilizing commercial materials (ESS, SCIS, S-APA, Man - a Course of Study, etc.), teacher-developed classroom activities, and teaching strategies geared toward individualizing instruction.

In summary, this two-pronged approach represented a broad extension of the Teacher Resource Center concept from its home base of operation to implementation within actual classroom settings. This direct means of impact upon teachers and children had impetus for making education in these areas more relevant and meaningful for children.

Another major thrust of the NSF grant was a three-year research study conducted by Dr. David Elkind of the Psychology Department at the University of Rochester. Dr. Elkind, child behavior specialist and recognized authority on the theories of Piaget, focused his research on the impact of the WIS approach on the intellectual and social development of pupils attending the school. Data was also collected from control groups of children in other schools in order to compare achievement, attitudes, ego development, interests and patterns of socialization.



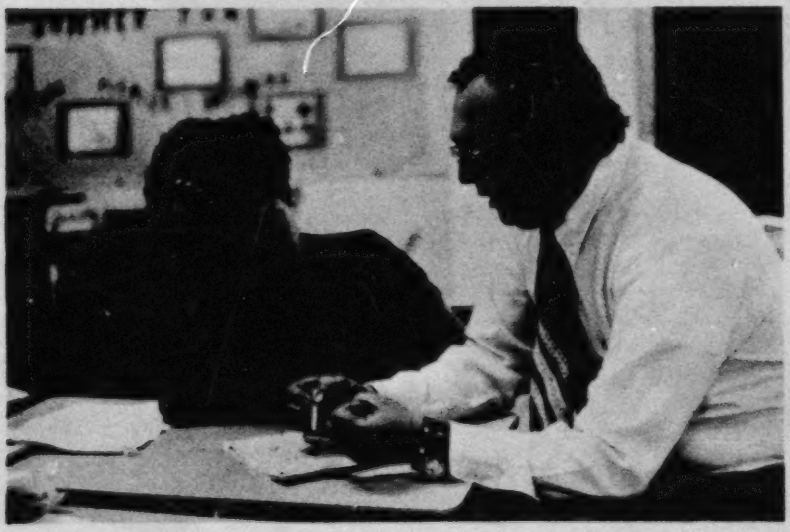
33

CHAPTER IV
SUMMARY

The organization, strategies, and concepts developed at WIS have had a great impact on instructional patterns in the elementary schools in Rochester. Many of the approaches were easily adopted without major changes or expenditures. They represent a highly successful mode of operating enriched programs, providing for individualization, and developing multi-ethnic awareness in both teachers and pupils.

Three examples of specific innovative ideas tried out at WIS before adoption by the District are (1) the system of reporting to parents, (2) varying patterns of open educational environments, and (3) curricular approaches and practices designed specifically for integrated classrooms. The first has led to the city-wide use of parent conferences as the most effective means of interpreting student progress at the elementary level. The second has led to the implementation in the elementary schools of several approaches to open education including interest centers, multi-graded classrooms, the "cluster" concepts and the process approach to materials and strategies. The third has paved the way for attitudinal changes which stimulated the acceptance of minority children and thus accelerated the District's open enrollment programs.

Many other strategies investigated and tested at WIS have become standard in the district including the formation of parent steering committees, released time for teachers, and a wide variety of inservice programs.



A determined effort to "spread the word" is one of the keys to the strong impact WIS has had on alternative education not only in Rochester but in the State and country. During the formative years, CCAUE helped to disseminate news about this demonstration school through television, films, tape recordings and the Center's newsletter. The school's reputation became national in scope after being featured on NBC's "Today" show and in articles in the *New York Times* and *Christian Science Monitor.* A documentary film entitled "Choosing to Learn," produced and distributed by the Educational Development Corporation, brought additional recognition to the school.

An open door policy regarding visitations enabled over six thousand people to tour the school during its first five years of operation. Educators, parents and members of the community came in such numbers that Volunteer Parent Tour Guides worked daily to schedule visits and handle the guests.

Another major part of the dissemination process was the teacher training program for interns, faculties from city schools and educators from the metropolitan area. Public and parochial school teachers were given the opportunity to observe demonstration lessons, participate in workshops or even become visiting staff members at WIS.

In May 1974, a description of WIS appeared in a publication by the New York State Education Department entitled, "A Catalog of Optional Learning Environments." A statement in the preface by Commissioner Ewald Nyquist seems to embody one of the basic premises for the existence of alternative schools such as WIS. "Surely, one of the ways for educators to be 'humanistic' is to recognize the diversity of talents among our students and to offer the diversity of programs which will accommodate individual needs."

The World of Inquiry School has not been organized in a traditional manner, teaching methods and materials are not utilized in traditional ways and the student population is not drawn in a traditional fashion. Yet significantly, all the measures used to determine academic success at the World of Inquiry School were those used to evaluate pupils in traditional schools. It became imperative that other evaluation methods be designed.

A longitudinal study funded by the National Science Foundation was carried out under the direction of Dr. David Elkind of the University of Rochester's Department of Psychology. This study researched the correlation of the school's goals and objectives to the existing program. Further, using control groups of children in other schools, it compared data on achievement, ego development, attitudes, interests and patterns of socialization.

The Division of Planning and Research of the City School District has also collected data on students at WIS. Some of the important findings from the Elkind study and the School District's report are as follows:*

1. World of Inquiry pupils, as a group, are almost without exception performing above national norms on standard achievement tests.
2. Over the last three years, WIS pupils scored consistently higher than the District average on standardized tests administered by the City School District.
3. On the New York State Pupil Evaluation Program tests for grades 3 and 6, WIS pupils have been consistently surpassing both the District and county average.
4. In a study of yearly attendance, WIS has been consistently above the District's average attendance per elementary school.
5. In a two-year study of creativity, WIS students were rated more creative and displayed a faster growth rate in creativity.
6. In a two-year assessment of District schools, WIS was found to have the most democratic atmosphere and was most supportive of independent learning.
7. Pupils at WIS demonstrated less anxiety regarding tests and school subjects and indicated a more positive attitude toward school and learning in general.
8. According to social and racial measurements, WIS pupils were more accepting of others with diverse backgrounds.

* Additional evaluation data can be found in the Appendix.

On a questionnaire sent to parents of former students at WIS, 94% of the respondents felt that the school program was superior or above average. Seventy percent of the parents indicated that, given the opportunity, they would send their other children to the World of Inquiry School.

Two follow-up studies of former WIS students provided evidence that the children were aware that the school was "different," took varying lengths of time to adjust to new school settings, and were eventually successful in making the adjustment. A high percentage were positive about their experiences at WIS and would recommend the school for their siblings.

While certain aspects of the school's program have varied from year to year, several key factors have insured stability. It has been housed in the same building, has retained the same Program Administrator and pursued the same basic educational objectives. The racial balances has been maintained, the multi-adult staffing model has been continued and the entire school organization has kept a high degree of flexibility.

The World of Inquiry School has proved to be an innovative instrument of change. The educational alternative that it offers is now well-known and accepted. Even though long term effects are still to be discovered, the staff looks to the future with great optimism.

William C. Pugh, Program Administrator 1967 – Present

38

APPENDIX

APPENDIX A
EVALUATION DATA

WORLD OF INQUIRY SCHOOL EVALUATION

Prepared by Dr. Roger F. Baglin, Educational Research Specialist

I. Introduction

WIS has been the subject of a six-year evaluative study conducted under the National Science Foundation by Dr. David Elkind of the University of Rochester. The final report of this prestigious and extremely well-funded ($74,174) and well-staffed project was due on 1 April 1974. Indeed a "rough draft" of the final report reached Mr. Pugh on 2 April 1974. I feel that, for several reasons, this document should receive our careful attention. I have selectively utilized parts of this study which I felt to be useful to my purpose. Please note that these citations and/or data come from a "rough draft" marked "not for publication or distribution." I have received verbal permission from Dr. Elkind to cite his study for "in-house" purposes and have written permission from NSF to utilize these results. Any material from the Elkind study is specifically so designated.

The objectives of WIS have been synthesized from descriptive material and delineate the school's philosophy and approach. They are set out in Addendum A. Addendum B is a grid showing the relationship of these objectives to the various components of this evaluation.

II. ACHIEVEMENT

Meaningful achievement data on WIS are elusive. The problems and the solutions adopted are described in Addendum C. One must bear in mind that a comparison of achievement at WIS with achievement of the Rochester City School District (RCSD) as a whole rests on an assumption of general comparability between the two. WIS professed -- and actual (see section III, B, 1) -- status as a microcosm of RCSD is the basis for the validity of such comparisons. An interesting bit of data from the Elkind study (see Addendum D) also points to the validity of such comparisons, in that WIS samples and comparable RCSD non-WIS controls show no significant difference in mental ability. We present here, then, what we feel to be a meaningful presentation of Reading and Mathematics achievement. From these data it seems quite apparent that both Reading and Mathematics achievement at WIS compare very favorably with that of RCSD.

NYSPEP State Percentile Rankings*

October 1972

	RCSD	WIS**
Total Reading 3rd Grade	33	64.9
Total Mathematics 3rd Grade	34	63.2
Total Reading 6th Grade	25	53.7
Total Mathematics 6th Grade	21	47.8

*RCSD percentile ranking are percentile ranks corresponding to median raw scores. WIS percentile rankings are means of the individual students' percentiles. Even though these statistics are not obtained in exactly the same way, nonetheless any variations due to the technical process can safely be said to be negligible.

**Scores are included here only for children who had been enrolled at WIS by at least the prior school year. No new entrants (September 1972) were included, since the effect on them of WIS training would have been negligible. In some cases NYSPEP scores were obtained from other schools for students who transferred out of WIS at the end of the 1971-72 school year.

The following table shows similarities in ethnic/racial composition.

Ethnic/Racial Percentages in Selected Schools

School	Percent Black	Percent Spanish-Surnamed	Percent Other
WIS	31.4	15.5	53.1
8	23.1	15.9	61.0
17	29.9	12.6	57.5
25	26.0	9.2	64.8
36	35.5	10.4	54.1

We can now proceed with our comparison of achievement as measured by NYSPEP.

Percentile Ranks of Median Raw Scores NYSPEP-Fall 1973

School	Total Rdg. 3	Total Math 3	Total Rdg. 6	Total Math 6
8	20	20	17	12
17	20	22	23	17
25	21	30	28	31
36	35	42	21	22
WIS	48	50	35	23
RCSD	30	34	25	20

As is obvious, WIS pupils outscored those in similar schools by wide and impressive margins. One exception occurred in sixth grade mathematics where children at one of the four similar schools did better than WIS children.

III. "ALTERNATIVE" ASPECTS OF WIS

The following measures concern objectives which, while no doubt widely considered desirable, are specifically and to some degree exclusively objectives of this particular alternative educational approach. Consult Addenda A and B. It should be emphasized that A involves instruments and data from the Elkind study and that their reliability and validity are still in the process of being verified.

A. Creativity Scale (from Elkind report)
A three-part creativity test (see Addendum E) developed by Dr. Elkind's staff was administered to two samples of WIS children and a control group -- roughly comparable in age, sex, and race. An analysis of variance found a direct relationship between length of attendance at WIS and creativity. The relationship was found to be significant at the .01 level of probability. A "Summary Table" is in my possession as well as a graphic description of results; I am not including these here, however, since I am not convinced of the clarity of their format at this stage. I am assuming, nonetheless, the correctness of the analysis. It should be reiterated that this instrument has not yet been broadly tested for validity and reliability.

B. Enrollment Analysis (not from Elkind study)
WIS purports to represent a microcosm of RSCD on both ethnic/racial and geographic bases. The following grids indicate the degree to which this objective is met.

1. Ethnic/Racial Distribution. Ethnic/racial classification of WIS children is based on parental statement or, in the very few cases where such was not furnished, on WIS administration's own observation. RCSD classifications are available in material for the 1973-73 RCSD Statistical Report. All data are for 1973-74. The following grid shows that WIS reflects almost exactly the minority/non-minority composition of RCSD; in the minority component, however, Spanish-surnamed are more substantially represented than are Blacks.

WIS Enrollment 1973-74 (Ethnic/Racial Distribution)

RSCD Total Elementary		WIS	
Minority	48.4%	Minority	46.9%
Non-Minority	51.6%	Non-Minority	53.1%
Black	41.0%	Black	31.4%
Span. Surnamed	6.7%	Span. Surnamed	15.5%
Other	52.3%	Other	53.1%

2. Geographic Distribution. The city was divided on the basis of census tracts into three classifications: Inner City, Middle City, and Outer City. Each category contains an approximately equal number of census tracts. Criteria

utilized in the classification included income and Aid to Dependent Children figures. All city streets are identified by census tract as pertaining to one of the three classifications and entering children are classified accordingly. In theory, these geographic areas should be represented proportionally in the WIS enrollment. In practice a few suburban children remain enrolled, while in former school years a suburban contingent was part of the theoretical composition. Nonetheless, the enrollment in general does represent a geographically balanced composition, even though the Inner City appears slightly underrepresented.

WIS Enrollment 1973-74 (Geographical Distribution)

Area	Number	Actual Percentage	Theoretical Percentage
Inner-City	80	28.9	33.3
Middle-City	100	36.1	33.3
Outer-City	90	32.5	33.3
Suburban	7	2.5	-

C. Waiting List Analysis (not from Elkind study)
An essential element in the evaluation of an alternative educational facility is investigation of whether the alternative is being chosen in preference to a normal educational setting. Is this alternative option "selling"? To determine this, an analysis of waiting lists has been done. Placement on the waiting list is through a formal application, which is accompanied by instructions and information on the admissions program.

The analysis is based on a computerized waiting list total for the school year; children are classified as Urban or Suburban. Of these subtotals, a certain number of children are admitted. Other children are offered admission but for one reason or another do not finally accept; these are classified here as "No Shows." Numbers of "No Shows," as compared to the numbers of accepted and attending children, must be extrapolated to the remaining untouched urban waiting lists to obtain a likely estimate of the numbers of urban children who would actually attend if accepted. These are labeled "Urban Probable Attenders." To these are added those urban children who actually entered from the waiting list to give us totals labeled "Urban Serious Applicants." Recruitment was necessitated for the first time (except for very minor instances) in 1973-74 to bolster enrollment of Spanish-surnamed children, and of Black children from Zone E. It would, therefore, seem unfair to generalize about the implications of recruitment, since the recruited population has not yet had a chance to affect next year's waiting list. It must be noted that prior to the current school year a large suburban component existed both in actual attendance and on the waiting list. While suburban attendance has been virtually eliminated this school year, suburban children continue to crowd the waiting list in numbers equaling about one third of the total. An analysis of these data in table form follows.

Waiting List Analysis

Item/School Year	1973-74	1972-73	1971-72
a. Tot. on W.L.	1030	1072	973
b. Suburban W.L.	366	406	385
c. Urban W.L.	664	670	588
d. Percentage W.L. Suburban	35.5%	37.7%	39.6%
e. Percentage W.L. Urban	64.5%	62.3%	60.4%
f. Admitted from W.L.	72	60	57
g. Admitted from Urban W.L. -- ef	72	37 approx.	34 approx.
h. "No Shows" from W.L.	15	10 est.	8 est.
i. "No Shows" from Urban W.L. -- eh	15	6 approx.	5 approx.
j. Residual Urban W.L. -- c-(g+i)	577	627 approx.	549 approx.
k. Extrapolated Urban "No Shows" -- (i/ [g+i]j	99	87 approx.	70 approx.
l. Urban Probable Attenders -- j-k	478	540 approx.	479 approx.
m. Urban Serious Applicants -- l+f	550	577 approx.	513 approx.
n. Percentage Urban Serious Applicants of Children Actually Admitted from W.L. -- m/f	763.8%	1559.4% approx.	1508.8% approx.
o. Percentage Urban Serious Applicants of Urban Children Actually Admitted from W.L. -- m/g	763.8%	961.6% approx.	900.0% approx.

The fact that none of the suburban children were admitted from the waiting list in 1973-74 accounts for the drop this school year in the semi-final percentage figure. The statistics for 1973-74 show that a potential group of 478 probable attenders remained after subtracting both the number actually accepted and the actual and probable "No Shows." This indicates that there were approximately 7⅔ times (763.8%) as many urban children who were "serious" applicants than there were children actually accepted from the waiting list in 1973-74. Put in another way, there were approximately 6⅔ times (663.9%) as many serious urban applicants who were not offered admittance as there were applicants admitted. This very large backlog of "serious" urban applicants certainly seems to indicate an extremely viable and desirable alternative educational opportunity. Also, it is interesting to note that as of the waiting list for this school year there still appears to be a heavy demand for WIS among suburban parents.

How this demand will be affected by the new suburban WIS in Webster or by the policy on tuition for non-residents at WIS is outside the scope of this evaluation.

IV. PERSONAL IMPRESSIONS

While personal impressions are, of course, quite "unscientific" and highly subject to all sorts of biases, they still have their place in an evaluation. The totally dispassionate evaluation is a fiction. Evaluation should be of the school as it lives and breathes and operates day to day. Mere analyses of dead statistics, while no doubt more objective, can never substitute for real living impressions of the facility being evaluated. Indeed, one of the major shortcomings of the present evaluation has been the inability of the evaluator to spend sufficient time at the school itself in leisurely observation. Several brief visits have been quite insufficient. Nonetheless, I am left with a distinctly favorable impression of the school's operation as a whole and in particular of the administration, my most frequent contact. There does appear to exist at the school a decided element of interest and vitality among the students.

V. CONCLUSION

I would like to avoid the standard disclaimers and cautions which customarily accompany evaluations. "Statistics don't lie; statisticians often do." Interpreters can also. I have stated in the introduction the constraints under which this work was done. The Elkind report, cited twice, is a "rough draft" - in my opinion, for very good reasons. In the interpretation and use of this evaluation these factors must be borne in mind. Nonetheless, we will state the following conclusions:

A. WIS shows Reading and Mathematics achievement substantially superior to that of RCSD as a whole, though an apparent similarity of enrollments exists.

B. WIS students appear to show creativity superior to that shown in a similar non-WIS control group.

C. WIS is indeed reflecting the overall composition of the RCSD - both ethnically/racially and geographically.

D. The alternative option offered at WIS does appear to be selling strongly among urban parents, as evidenced by very large "serious" waiting lists.

ADDENDUM A

Objectives - The following are synthesized from various descriptive material and delineate the school's philosophy and approach.

A. Inquiry and discovery should be utilized above all else to stimulate interest and, thus, learning.

B. Diversified instructional techniques are essential and should be used.

C. Chronological age must not be a basic determinant of the learning process.

D. A multi-cultural, multi-ethnic, multi-racial and multi-educational-background mixture of children is more effective for human problem solving than a non-integrated group.

E. A multi-aged, non-graded, multi-achievement-level student population has general educational and social value.

F. Self-image, decision making skills, and other positive characteristics will be developed and increased by opportunities offered at WIS.

G. As an alternative educational facility, WIS will attract children from a population varying across many criteria.

ADDENDUM B

Evaluation Design - A schema of the relationships of evaluation components/measures to the objectives listed in Addendum A follows:

Evaluation Design Component	Relevant Objective
II	A B C D E
III A	A F
III B	D G
III C	G

The design will consist of two basic parts, one treating the "hard-nosed" area of reading and mathematics achievement, the other looking toward the more "tailored" area of evaluation of the specifically alternative aspects of WIS' objectives and philosophy. Presumably, of course, a high degree of success in the first area and a corresponding failure in the second area will indicate that a major academic end has been reached regardless of the pedagogical means employed. Contrariwise, however, a failure in the first area and success in the second area will indicate merely an apparent lack of causality between the alternative pedagogic techniques - which may indeed have their own intrinsic or other values - and academic achievement.

ADDENDUM C

Reading and Mathematics Achievement

Two basic approaches could be used, each of which is unfortunately - and for different reasons - suspect as to accuracy of representativeness.

1. The first approach would be to compare the actual growth rates with the anticipated or historical growth rates of WIS participants over successive school years. This would perhaps be the more accurate measure for first year transfer students at WIS. For other WIS students, however, it would not be appropriate since it simply measures early WIS against later WIS and, in order to show significant positive findings, would postulate a steadily improving growth rate. WIS would be forced into outdoing itself in successive years. This could lead to a theoretically desirable "controlled growth rate" in which a modest, manageable, and improvable rate of growth would be the goal each successive year. This would take the nature of an anti-incentive - hostile to accomplishing as much "exploding" growth as possible each year.

   This approach is, of course, appropriate in a remedial situation such as funded programs, where the treatment will presumable be substantially better than past non-program treatment.

2. The other approach - which will be used - is to compare the 3rd and 6th grade PEP test state percentile rankings of WIS with those of the RCSD. Since WIS theoretically and in fact (see III, B, 1) represents a racial, geographic, ethnic, cultural, and thus effectively socio-economic, microcosm of RCSD, this comparison appears to be valid. The finding of Elkind cited in Addendum D reinforces this conclusion.

ADDENDUM D

(From Elkind Report)

3-Way Analysis of Variance Summary Table

OTIS QUICK-SCORING MENTAL ABILITY TEST

Source[a]	Sum of Squares	df	F
Main Effects			
Race	5508.238	1	23.535 ***
Sex	351.982	1	1.504
Attendance	1097.639	2	2.345
Interactions			
Race x Sex	24.855	1	0.106
Race x Attendance	333.541	2	0.713
Sex x Attendance	59.332	2	0.127
Race x Sex x Attendance	56.926	2	0.122
Within	42829.875	183	

*p .05
**p .02
***p .01

MEANS FOR THE DIFFERENT EFFECTS:

Race

W	B
115.33	103.99

Attendance

Ex_1	109.52
Ex_2	116.70
Control	110.26

ADDENDUM E

(From Elkind Report)

UNIVERSITY OF ROCHESTER

CREATIVITY TEST

The creativity test is divided into three parts. For each section, the examiner asks the subject questions and writes down his responses. This is more than a "yes" or "no" response test and the examiner should allow time for the child to think and respond to items. If the subject responds yes to a qestion, the examiner asks, "How?" After the first explanation, he asks if there is any other way.

It is necessary to read all the tests of a particular age group before beginning to score this measure. Knowledge of the subject's responses is imperative because the scoring is based upon unique responses (less than 5% occurrence for each age level) and typical responses.

The measure is scored by three independent raters. There has to be agreement between at least two of three raters for scoring of a particular item on the measure. The inter-rater reliability has been very high on this measure. Disagreements are settled by discussion.

The number of points given for unique and typical responses and additional instructions for scoring are shown in the scoring scheme below:

3 points	-	Unique response (less than 5% occurrence for each age level)
2 points	-	Typical responses
1 point	-	Responses repeated within a grouping (part A,B,C)
1 point	-	Responses on parts A and B which do not involve an active transformation of the elements involved (i.e. "You can dump the sugar into the water" or "I've seen square barrels" if the child can convince you that he actually has seen a square barrel)
0 points	-	Repeated answers to a single test item (or very close answers)
0 points	-	Inappropriate responses

CREATIVITY TEST

Instructions

Introduction - I'm going to ask you some questions - some of them may sound a little silly, but I want you to answer them the best you can.

PART A. "Could you get some sugar into: 1) a pumpkin?"
" " 2) a turtle ?
" " 3) a bell?
" " 4) a floor?
" " 5) paper?
" " 6) a horse?
" " 7) a telephone book?
" " 8) a record?
" " 9) water?
" " 10) a shirt?

After the child gives his spontaneous answer(s) to each question, ask: "Is there any other way you could get sugar into..?" This follow up is asked only once for each question

PART B. "Could 1) tape be a square?"
" 2) a tree "
" 3) chalk "
" 4) a hanger "
" 5) a rubber ball "
" 6) a barrel "
" 7) rain "
" 8) marble "
" 9) fried chicken "
" 10) a bicycle "

After a child gives his spontaneous answers to Part B, ask him: "Is there any other way a ... could be a square? Again the follow up is asked only once for each question.

PART C. "Are these things like each other in any way?"
"Is a peach like a 1) baseball in any way?"
" 2) teddy bear "
" 3) steak "
" 4) roller skate "
" 5) banana "
" 6) acorn "
" 7) map "
" 8) ice cream "
" 9) mop "
" 10) sponge "

After the child gives spontaneous answer(s) to each question ask: "Is a peach like a ... in any other way?" Again, this is asked only once for each question.

APPENDIX B
SCHOOL STAFF

Name	Title	School Year
Allesandra, Rose	Secretary	1969-1972
Anderson, Terry	Intermediate Teacher	1971-1972
Anthony, James	Intermediate Teacher	1975-1976
Bates, Pauline	Instructional Aide	1969-1970
Blackwell, Elsie	Instructional Aide	1967-1976
Borgeson, John	Industrial Arts Interest Center	1967-1970
Brewley, Theresa	Music Interest Center	1976
Briggs, Richard	Intermediate Teacher	1967-1969
Burman, Joan	Primary Teacher	1973
Butler, Mary	Instructional Aide	1967-1970
Cario, John	Industrial Arts Interest Center	1975-1976
Carter, Diane	Instructional Aide	1969-1970
Chapman, Jacqueline	Nurse-Teacher,	1968-1969
	Human Relations Interest Center	1969-1970
	Social Studies Interest Center	1970-1976
Childs, Darthula	Instructional Aide	1967-1971
Christians, Donald	Career Interest Center	1973-1974
Chudanski, Barbara	Secretary	1974-1975
Cook, Wayne	Science Interest Center	1967-1970
	Science & Industrial Arts Interest Centers	1970-1971
Cook, William	Human Relations	1967-1968
Crawford, Ann	Pre-Primary Teacher	1967-1975
DiJune, Mary Lou	Primary Teacher	1974
DeLaus, Jacqueline	Nurse-Teacher	1972-1973
Doty, Richard	Science Interest Center	1971-1973

Name	Title	School Year
Emmighausen, Erna	Instructional Aide	1970
Fagan, Pauline	Instructional Aide	1967-1970
Fairwell, Kelvin	Instructional Aide	1974-1976
Farone, Anne	Secretary	1975-1976
Faucette, William	Intermediate Teacher Curriculum Coordinator	1968-1969 1969-1970
Feldman, Jane	Primary Teacher	1967-1969
Fender, Patricia	Primary Teacher	1969-1973
Fleischer, Robert	Volunteer Science Teacher	1967-1971
Flynn, Shirley	Secretary	1972-1973
Gaylord, Ava	Secretary	1971-1972
Gerber, William	Intermediate Teacher	1967-1975
Goldberg, Frances	Primary Teacher	1973-1976
Goss, JoAnn	Library Resource Center	1967-1976
Hall, Ingrid	Instructional Aide Creative Arts Interest Center	1967-1968 1968-1976
Hanley, Linda	Secretary	1973-1974
Harris, Adelaide	Instructional Aide	1969-1970
Harris, James	Physical Education Interest Center	1969-1970
Harris, Joseph	Industrial Arts Interest Center	1974-1975
Herrman, Michael	Physical Education Interest Center	1975-1976
Hodgins, Irene	Instructional Aide	1967-1972
Holland, Barbara (Serbenis)	Primary Teacher	1969-1975
Holloway, Beverly	Instructional Aide	1967-1971
Hutt, Harry	Physical Education Interest Center	1967-1969
Jaffe, Louise	Secretary	1967-1969
Jaffey, Soralie	Instructional Aide	1967-1971

Name	Title	School Year
James, Barbara	Secretary	1972-1973
James, Jessie	Instructional Aide	1967-1969
Kaplan, Rosyln	Social Studies Interest Center	1967
Kelly, Patricia	Reading Resource Teacher	1973-1976
[illegible]lly, Peggy	Instructional Aide	1967-1972
Keuper, Agnes	Intermediate Teacher Primary Teacher	1967-1970 1970-1972
Krauss, Laura	Primary Teacher	1967-1970
Lane, Carol	Nurse-Teacher	1974-1975
LeBron, Lydia	Instructional Aide	1973-1976
Lopez, Naomi	Instructional Aide	1973-1975
Lucity, Sharon	Primary Teacher	1970-1972
Mahar, Kay	Nurse-Teacher	1973-1974
Marini, Albert	Industrial Arts Interest Center	1972-1974
McCloy, Barry	Intermediate Teacher	1969-1970
McCrory, Margaret	Counseling Psychologist	1969-1976
McFadden, Geraldine	Music Interest Center	1967-1976
Mosca, Lorraine	Primary Teacher	1974-1976
Mykins, Kathleen	Secretary	1974-1976
Ness, Mildred	Curriculum Coordinator	1967-1969
Nestle, Marion	Brockport In-Residence Supervisor	1973-1976
Newport, Sarah	Nurse-Teacher	1975-1976
Orrico, Joyce	Intermediate Teacher Director, Teacher Learning Resource Center	1967-1975 1972-1974
Peasley, LeRoy	Intermediate Teacher	1967-1970
Pugh, William	Program Administrator	1967-1976
Rami, Sonya	Volunteer Weaving Teacher	1967-1976

Name	Title	School Year
Ramos, Gloria (Lopez)	Primary Teacher	1967-1970
Reid, Brita	Creative Arts Interest Center	1967-1968
Rhode, Helen (Mizma)	Nurse-Teacher	1967-1968
Rinaldi, Carol	Secretary	1967-1969
Rizzo, Marie	Speech Therapy Teacher	1975-1976
Robertson, William	Industrial Arts Interest Center	1971-1972
Roche, Patricia	Primary Teacher	1973-1974
Rodriquez, Ferdian	Spanish Cultural Interest Center	1973-1975
Rothaar, Catherine	Braille Teacher	1974-1976
Sayre, Linda	Secretary	1969-1970
Schlachter, Rita	Nurse-Teacher	1969-1972
Schloss, Morley	Social Studies Interest Center	1968-1970
Sciolino, Gloria	Intermediate Teacher	1975-1976
Searles, Charles	Counselor	1967-1968
Seeley, Nancy	Instructional Aide	1967-1970
Starna, Norrine	Intermediate Teacher	1972-1973
Sullivan, Pauline	Intermediate Teacher	1973-1976
Tandoi, Louise	Intermediate Teacher	1973-1976
Thomas, Carroll	Physical Education Interest Center	1970-1975
Turner, Dorothy	Pre-Primary Teacher	1975-1976
Wagner, Janet	Primary Teacher	1973
Waterman, Mary	Secretary	1970-1971
Watson, Stanley	Volunteer Guitar Teacher	1967-1969

Name	Title	School Year
Watt, Elizabeth	Large Print Teacher	1975-1976
Whittaker, Albert	Counselor	1968-1969
Williams, Henry	Human Relations Interest Center	1968-1969
Williams, Joanne	Instructional Aide	1969-1970
Zingaro, Ralph	Intermediate Teacher	1967

APPENDIX C
TRUSTEES OF PROJECT UNIQUE

ROSTER OF FIRST TRUSTEES OF PROJECT UNIQUE

Dr. William Cotton
Mr. Charles Frazier
Dr. William Fullager
Mr. Herman R. Goldberg
Mr. Clement Hapeman
Mr. Lloyd Hurst
Mr. Raymond Iman
Mrs. Jessie James
Mr. Lawrence Klepper
Mr. Albert Mellican
Mrs. Carolyn Micklem
Mr. William Pugh
Mrs. Gloria Ramos
Mrs. Mary Anna Towler
Dr. Andrew Virgilio
Mr. William C. Young
Mr. Rolf Zerges

ROSTER OF TRUSTEES (1975-76)

Mr. Sanford Shapiro, President
Mr. Lyman Bement, Vice President
Mr. Clement Hapeman, Treasurer
Ms. Jacqueline Chapman, Secretary

Mr. Archie Curry
Mrs. Maria De Jesus
Dr. James Doi
Mr. William Hall
Rev. Leardrew Johnson
Mr. Nathan Lyons
Mr. Stanley Marcus
Dr. Margaret McCrory
Dr. George J. Rentsch
Dean Hays Rockwell
Mr. Alan Saiger
Mrs. Corine Wilson

The work presented or reported herein was performed pursuant to a grant to Project Unique, Inc., from the National Science Foundation, Washington, D.C.